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NUTRITIONAL HEALTH OF TEENAGERS.

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SURVEYS HAVE SHOWN THAT SOME TEENAGERS HAVE FOOD INTAKES THAT FAIL TO SUPPLY THE RECOMMENDED DIETARY ALLOWANCE FOR EACH OF THE NUTRIENTS. HOWEVER, THE NUMBER OF TEENAGERS CLASSIFIED AS HAVING INADEQUATE NUTRIENT INTAKES DEPENDS UPON WHICH REVISION OF THE RECOMMENDED DIETARY ALLOWANCES HAS BEEN USED AS A BASE FOR EVALUATION. IN EXAMINING THE REVISIONS, IT WAS FOUND THAT THE MINIMUM DAILY REQUIREMENTS FOR CERTAIN NUTRIENTS SUCH AS PROTEIN, RIBOFLAVIN, IRON, AND CALCIUM HAD CHANGED. THE APPLICATION OF THE DIETARY GUIDE SHOULD BE DONE CAREFULLY, AS MANY TEENAGERS ARE WELL FED AND HAVE HAD GOOD EATING HABITS FROM CHILDHOOD. THE AUTHOR SUGGESTS IDENTIFYING ACCESS POINTS IN TIME AND PLACE WHEN ADULTS CAN MAKE AVAILABLE GOOD NUTRITIONAL FOOD THAT WILL CONTRIBUTE TO MEETING THE PHYSICAL AND SOCIAL NEEDS OF TEENAGERS. THIS SPEECH WAS PRESENTED AT THE NATIONAL OUTLOOK CONFERENCE ON RURAL YOUTH, OCTOBER 23-26, 1967, WASHINGTON, D. C., SPONSORED JOINTLY BY THE U. S. DEPARTMENTS OF AGRICULTURE, HEALTH, EDUCATION, AND WELFARE, INTERIOR, AND LABOR, OEO, AND THE PRESIDENT'S COUNCIL ON YOUTH OPPORTUNITY. (SF)

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NUTRITIONAL HEALTH OF TEENAGERS

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We point with pride to our youth--their size, their physical prowess, their mental attainments, and their vitality. At the same time we view with alarm their food choices and eating patterns. Either we do not have the true picture of their food habits, or if we do, we do not interpret it correctly or we are saying that food has no relation to total fitness. We have an impressive body of established knowledge about the positive correlation between food and health. I suggest, therefore, that we need to look at the dietary situation of teenagers more carefully.

Surveys show that some teenagers have food intakes that fail to supply the recommended dietary allowance for each of the nutrients. Some fail to supply even two-thirds of the recommended amounts and these we rate inadequate or poor. The number of teenagers classified as having inadequate nutrient intakes, however, depends on which revision of the Recommended Dietary Allowances has been used as the "standard" or basis for evaluation.

Since their first edition in 1941, the allowances have been reviewed and revised as needed to reflect the best available scientific evidence. In the 1963 revision, the allowances for teenagers for several nutrients were significantly reduced. For instance, the allowance for protein for the 13-15 year old girl was 80 grams in the 1941 edition. It continued to be 80 grams in the four revisions through 1958. In the latest 1963 revision, however, it was reduced to 62 grams for the 12-15 year old girl. Many of the dietary evaluations which we view with alarm are from studies made prior to 1963 and compared with the earlier and higher allowances.

A few figures will illustrate the differences in the assessment of adequacy that occur when an allowance is revised. In the late 1940's, the dietary intakes of 281 girls 13-15 years old in three Northeastern States were evaluated. Only 45 percent of the girls had protein intakes that equalled the allowance which was then 80 grams. When, however, the intakes are compared to the 1963 allowance, instead of 45 percent,

PC 002 005

there are 74 percent of the girls who had protein intakes that met or exceeded the allowance. (Assuming a distribution which is normal in the area of the mean, plus or minus one standard deviation.) The figures are similar for thiamine--the percentage of intakes that met or exceeded the allowance for thiamine rose from 46 when judged by 1948 allowance to 73 when judged by the 1963 allowance.

In reviewing one of her studies made in Nebraska in 1949-50, Dr. Leverton shows that certain conclusions are no longer justified. Using the 1953 allowances, it was reported that half of the 13-15 year old girls had thiamine intakes that were less than 70 percent of the allowance. By the present standard, there would have been no intake of thiamine that rated this low. Instead of reporting that only half of the girls met the allowance for riboflavin, it would now be reported that 92 percent had intakes that met or exceeded the allowance.

There has been no downward revision, however, in the allowances for calcium and iron for the teen years. In the 1953 edition, the calcium allowance for the 16-20 year old girl was increased from 1.0 to 1.3 grams. Thus, if these two nutrients were in short supply when compared with the allowances of the 1940's, they would still be in short supply when compared with later revisions. We might ask the reason for such steadfastness in recommendation over the 20-year life of the allowances. Has the research on which the 1941 recommendations were based withstood the impact of newer findings, or have normal human requirements for these nutrients been neglected in the competitive research arena?

For an answer to these questions, we can turn to the table and the text of each of the seven publications of the allowances from 1941 through 1963. The iron allowance has remained at 15 milligrams for both boys and girls in the teen years. There was no text presenting the basis for the figures for the individual nutrients in the allowances in 1941 and 1943. When explaining their scientific basis, however, Dr. Lydia Roberts said, "No data were available for the (iron) requirements of adolescents. The allowances were set empiracally on the assumption that the needs would be actually greater than those of the adult during these years and increases (over the allowances for younger children) of the order used would probably be justified."

In the text that accompanied the 1945 revision, the statement was made, "No data are available for the (iron) requirement during adolescence. The allowances recommended were estimated on the assumption that needs are greater than those of the adult."

Similar statements were made in the 1948 revision and again in the 1953 revision. In the 1958 revision, there are no references to new metabolic studies but the statement had been changed to, "Iron requirements during adolescence are enhanced because of the growth spurt which occurs at

this age. Allowances of 15 milligrams have therefore been proposed for age groups from 13-15 years." In the 1963 revision, no new studies were cited and the statement was made that, "Iron requirements during adolescence are enhanced because of the growth spurt which occurs and are probably equal to or exceed the adult requirement, particularly in the case of adolescent girls who have passed the menarche."

A review of the texts on calcium allowances for adolescents indicate concern over the scarcity of data. Studies made in 1922, 1930, and 1936 are the chief sources of the figures which have been evaluated and recalculated in light of newer findings on younger and older age groups.

The scientists charged with the responsibility for setting allowances have carefully documented the limits of knowledge on these requirements and thus on the allowances for adolescents. But have we, as practitioners, respected and heeded these limits? The manner and tone in which we have reported some of our studies suggest that we have not.

We use the Recommended Dietary Allowances in a most rigid way for measuring the adequacy of diets and the prevalence of poor diets. In assessing the diets of a population group, we classify as "poor," diets that supply less than two-thirds of the allowance for any one nutrient because nutrients are not interchangeable in their usefulness to the body--an over-supply of one cannot make up for a shortage of another. If a large proportion of a group falls short in any one nutrient, either sources of that nutrient need to be made available or the group needs to be educated to include food sources of the nutrient in their diets.

In assessing the diets of a small group of individuals as a basis for individual counseling, these allowances should be used in a most flexible manner. A teenage girl, whose 1 day record shows adequate amounts of all nutrients but shows 9.8 mg. of iron instead of 10 mg. (2/3 of the Recommended Allowances) need not be classified as "poor." The Recommended Dietary Allowances are not meant to be a rigid standard and should not be used as such.

Many are well fed. Some, particularly girls, are underfed because in their desire to have a good figure they skip meals and choose others unwisely so that not only do they cut calories but shortchange themselves in other nutrients such as Ca, vitamin C and vitamin A.

Some, because of adolescent psychological problems, are overfed on calories but may still not be getting all the other nutrients in adequate amounts. This is a medical problem and should be treated as such.

Studies show that many school children from about the sixth grade on, either skip breakfast or eat a most inadequate one. This poor practice tends to persist throughout the secondary school years.

These young people may rebel at meals served to them and depend heavily on getting their nutrients--and calories--in the form of snacks. As far as we know, there is nothing wrong with the practice if the selections are good.

Some may rebel at eating stereotypes and favor unusual food combinations.

Good or poor practices have their beginnings much earlier. Many of the problems result not from a sudden switch from good to poor practices but because borderline practices of earlier years continue and are not adequate to meet the higher nutritional requirements of adolescence. Further, the interests and psychological needs of adolescence may be manifested in poor food habits if understanding and guidance are not available.

The period of transition from childhood to adulthood has been progressively telescoped into fewer and fewer years. "Instant adulthood" seems to be the demanded goal. This intensification applies to almost every facet of the teenager's life--speed, quantity, variety, and opportunities, challenges, and certainly to the stresses which confront him.

In such a setting, what chance is there of today's teenager following the guidelines for good nutrition? There are several counts against it, including:

1. Too often teenagers have been given the idea that nutrition means "eating what you don't like because it's good for you," rather than "eating well because it looks good, tastes good and it will help you in what you want to do and become."

2. Teenagers are not experiencing the nutritional disaster that adults are telling them will result from poor food habits.

3. Food is only one component of the busy lives of teenagers and can receive only a fraction of their attention. What they need and will eat is not always available to them at places and times when they do eat.

4. Many persons who are in strategic positions to help teenagers are not knowledgeable about practical nutrition. Some are actually misinformed.

Fortunately, there is a plus side to the ledger--reasons why there is a good chance for teenagers to be well fed.

1. Teenagers get hungry.

2. They like to eat.

3. They want energy, vigor, and the means to compete and excell in whatever they do.

4. Many of them have good food habits that they established in childhood. "Habits are hard to break," applies to good habits as well as to bad habits.

We have not always appreciated these assets and the opportunities they offer for effective nutrition education.

I suggest that our responsibility now is to identify "access points" to our teenagers--points in time and place when we can make available for them food that they like and that will contribute to meeting their physical and social needs. "Access points" should be serviced without adult prejudice and mores. Access points mean doing things for the teenager, not to him. Their major purpose should be to offer teenagers food they will enjoy. Examples of such access points are (1) the home refrigerator and the kitchen cupboard with foods easily available in a permissive, pleasant atmosphere, at any time of day, but especially in the morning; (2) school lunches that recognize that teenagers want some choice even within the framework of the Type A lunch--choice that permits variation in the calorie value and allows for favorite foods, and (3) dispensing machines that offer foods with more than empty calories.

Basic to the success of access points is a schedule that permits time for eating and snacking. We have permitted school and activity schedules to be so packed that there is scarcely time for midday eating and even less time for refueling before the after-school activities. Such schedules practically force teenagers into a distorted pattern of grabbing any food they can during the school hours and using the hours late in the day for catching up on their food intake.

We know little about what is desirable in the spacing and the size of meals. We know that it is undesirable to crowd a large proportion of the day's food intake into a small time space or a single meal. Such quantities not only tax physiological processes at the time but mean that during much of the day the body needs for nourishment are likely to have been neglected. So it should be reason for concern and action when we find teenagers consuming as much as half their total food for the day after school hours and before bedtime.

Nutrition education to undergird and accompany whatever access points we identify is an art and science in itself. There are as many approaches as people have time and training to develop them. In the total health picture, as much attention needs to be given to rest and exercise as to food selection. Whatever methods and materials we use in our nutrition programs, we must not be tempted to judge the individual teenager by

generalizations that have been made about the group. Even if it is true that half the teenagers are poorly fed, this means that there is still half of them that are well-nourished. It is just as much our responsibility and privilege to help them remain so, as it is to help others attain the well-nourished status.

In working with teenagers over the years, I always tell them that you can eat anything you like if you know how to choose the foods to go with your favorite! Furthermore, it is easy to learn! With a reliable food guide it is no problem to meet your nutrient and energy needs with foods you enjoy. If you are concerned about maintaining your weight at a desirable level you will also want a calorie guide. The Agricultural Research Service has these publications available--"Food for Fitness--A Daily Food Guide" and "Food and Your Weight." These are available from the Office of Information, USDA.

Above all, in working with adolescents, we must remember this is a difficult time for them. We need to find areas of agreement and build on them--guiding them to make good choices for themselves. There is no real need to impose our choices on our youth--but to provide opportunities for them to develop facility in choosing wisely.

It is a free country for teenagers, too. They come from the sturdy, free thinking stock that has made this country great. The big lesson for them to learn is that with every freedom--large or small-comes responsibility. Freedom to eat the foods they like carries with it the responsibility to learn how to combine these foods with others to achieve a diet that will meet their nutritional needs.

I have great faith in our youth. If we do our job well and help them to learn this lesson, many of them will willingly accept their responsibilities.